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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/657,343  
Filing Date: September 08, 2003  
Appellant(s): CHEN ET AL.

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Louis C. Dujmich  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 02/04/2008 appealing from the Office action mailed 11/14/2006.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

Art Unit: 2800

US 6,132,260	Wu	10-2000
US 5,865,934	Yamamoto et al.	02-1999
US 6,171,152	Kunz	01-2001
US 6,183,308	Laity	02-2001
US 5,531,612	Goodall et al.	06-1996

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 3-6 and 8/3-8/6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (US 6,132,260) in view of the prior art Figures 1-3 of Yamamoto et al. (US 5,865,934) and Kunz (US 6,171,152).

Wu discloses a multi-port connector comprising: a housing (2) having at least two aligned compartments (210,212) to receive respective plugs; a printed wiring board (7) separating the two compartments and having circuit patterns (70) on opposite sides; a first plurality of conductive contact fingers (4 top) in one of the compartments and having first and second portions (41,42); a second plurality of conductive contact finger (4 bottom) in another of the compartments and having first and second portions. Wu discloses an assembly housing (5) in one of the compartments. Please note that the recitation of the intended use (i.e. for housing two sets of toroids) of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Wu discloses substantially the claimed invention except for the multiple layers on the printer wiring board. Yamamoto (in prior art Figs. 1-3) teaches a multiplayer printed wiring board having circuit patterns (23) on opposite sides of opposed non-conductive layers (22) and a metal shielding layer intermediate the non-conductive layers to provide structural strength and heat dissipation (col. 9, lines 59-61). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the printed wiring board of Wu as a multiplayer printed wiring board having circuit patterns on opposite sides of opposed non-conductive layers and a metal shielding layer intermediate the non-conductive layers, as taught by the prior art of Yamamoto, to provide structural strength and heat dissipation.

Wu, as modified, discloses substantially the claimed invention except for the metal separator. Kunz teaches the use of a metal separator (74) for separating sets of toroids in order to reduce electromagnetic interference caused by one set to the other. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a metal separator, as taught by Kunz, to reduce electromagnetic interference.

Regarding claim 4, Wu, as modified, discloses the toroid base assembly has a first set of contacts for connecting the two sets of toroids to the circuit patterns on the printed wiring board and a second set of contacts for connecting the two sets of toroids to an external circuit.

Regarding claim 5, Wu discloses the first portions of the contact fingers having spacing equal to the spacing between the contacts in the corresponding plug.

Regarding claim 6, Wu discloses the second portions spaced apart by a distances greater than the spacing of the first portions (Fig.3).

Regarding claims 8/3-8/6, Wu discloses the compartments being upper and lower vertically aligned compartments.

Claims 7 and 8/7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu, Yamamoto and Kunz, and further in view of Laity (US 6,183,308).

Wu, as modified by Yamamoto, discloses substantially the claimed invention except for resilient spring action of the contact finger. Laity teaches a connector having contact fingers (354) with resilient second portions (358) being connected to traces on a circuit board by spring action to provide a resilient and secure connection (thus efficient and easier to complete). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the connector of Wu having contact fingers with resilient second portions being connected to traces on a circuit board by spring action, as taught by Laity, to provide a resilient and secure connection.

Claims 9/8/3-9/8/6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu, Yamamoto and Kunz, and further in view of Goodall et al. (US 5,531,612).

Wu, as modified, discloses substantially the claimed invention except for the metallic shields. Goodall teaches the use of front and rear metallic shields to protect the connector from external electromagnetic interference. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to form

Art Unit: 2800

the connector of Wu having front and rear metallic shields, as taught by Goodall, to protect the connector from external electromagnetic interference.

Claims 9/8/7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu, Yamamoto, Kunz and Laity, and further in view of Goodall et al.

See previous discussion on claims 9/8/3-9/8/6.

Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu, Yamamoto and Kunz, and further in view of Goodall et al.

Wu, as modified (see discussion on claim 3), discloses substantially the claimed invention except for the plurality of sets of upper and lower vertically aligned compartments. Goodall teaches a plurality of sets of upper and lower vertically aligned compartments to maximize space. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to duplicate the connector of Wu to have a plurality of sets of upper and lower vertically aligned compartments, as taught by Goodall, to maximize space.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu, Yamamoto, Kunz and Goodall, and further in view of Laity.

See previous discussion on claim 7.

## **(10) Response to Argument**

### **1. Claims 3 and 8/3-8/6:**

In response to Appellant's argument (on page 4) that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be

established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Yamamoto (in prior art Figs. 1-3) teaches a multiplayer printed wiring board having circuit patterns (23) on opposite sides of opposed non-conductive layers (22) and a metal shielding layer intermediate the non-conductive layers to provide structural strength and heat dissipation (col. 9, lines 59-61).

In response to Appellant's argument (starting on page 4, last line) asking "Why would one skilled in the art be motivated to replace a shielding technique already shown to work in the Wu connector and instead use a different, unproven shielding technique?", please note that the fact that there is a known method/structure would not precluded one of ordinary skill in the art from trying to improve upon such method.

In response to Appellant's argument (on page 5, first full paragraph) that "nowhere in lines 59-61 or anywhere else in Yamamoto is the metal plate 21 characterized as a 'metal shielding layer'; instead, Yamamoto in lines 59-61 states that the metal plate 21 serves as a support, a reinforcement and a heat sinking element, as well as a ground electrode", please note that the fact that Yamamoto has used a label, that is different from that in the present application, to identify element 21 does not negate the structural characteristics of that element. In this case, Yamamoto shows a metal layer (21) that provides shielding, as well as rigidity and heat dissipation.



In response to Appellant's argument that "[t]here is no reason why one skilled in the art would use a board, one of whose primary features is heat sinking, in an application in which heat generating components are not employed", please note that the fact that a feature/element has "a primary feature" would not preclude one skilled in the art from appreciating the other characteristic of that element.

In response to Appellant's argument (on page 5, last paragraph) that "what the Examiner characterizes as a separator is actually the middle part of a three-piece Faraday shield", please note that the fact that element 74 is part of a Faraday shield does not negate that fact that is a metal separator that separates set of toroids (see Fig. 3).

In response to Appellant's argument (on page 6, first paragraph) that "no part of the shield, let alone the part 74, separates the sets of toroids from one another but, instead, the entire shield surrounds all of the sets" please note that plate 74 is placed behind toroids 64-67, thus separating toroids (64-67) from toroids (70-73).

In response to Appellant's argument that "the sets of toroids are not even electromagnetically shielded from one another", please note that the placement of a metal plate between the set of toroids reduces electromagnetic interference from one another and from external interference.

In response to Appellant's argument that "nowhere in Kunz is the middle part of the three-piece Faraday shield characterized as a separator", please note that the fact that a different label is used does not deny the structural characteristics/arrangement of the metal separator (74) of Kunz.

In response to Appellant's argument that "the Examiner is attempting to do is not combine the shield of Kunz with Wu, but instead to disassemble the shield and allege that there is a suggestion to combine one of the dissembled parts thereof with Wu for a purpose not taught by the reference", In response to Appellant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a metal separator, as taught by Kunz, to reduce electromagnetic interference.

## **2. Claims 7 and 8/7:**

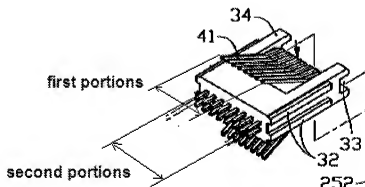
In response to Appellant's argument (on page 7) that "there is no teaching in Laity to connect portions of contacts to a printed wiring board by spring pressure but, to the contrary, Laity teaches soldering", please note that Laity defines element 358 as "terminal portion or solder tail". Nonetheless, the fact that solder may be subsequently applied does not deny that a spring connection is initially formed.

## **3. Claims 9/8/3 to 9/8/6:**

In response to Appellant's argument (on page 8) that "[i]t appears that the spacings between all of the contacts for terminal 42 and terminal 61 are identical",

Art Unit: 2800

please see the following figure, which shows that the second portions of the contacts being spread along a longer area than the first portion, thus resulting into a greater spacing.



In response to Appellant's argument that "if the spacing were different, the patentee would have so noted in the specification", please note that a patentee does not need to describe every single aspect of his working invention, but only that what he regards as his invention/improvement.

#### **4. Claim 9/8/7:**

Since Appellant merely refers to the reasons provided for claim 3, please refer to the response to arguments regarding claim 3, above.

#### **5. Claims 12-15:**

In response to Appellant's argument (on page 8) that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one

of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Yamamoto (in prior art Figs. 1-3) teaches a multiplayer printed wiring board having circuit patterns (23) on opposite sides of opposed non-conductive layers (22) and a metal shielding layer intermediate the non-conductive layers to provide structural strength and heat dissipation (col. 9, lines 59-61).

In response to Appellant's argument (starting on page 9, first paragraph) asking "Why would one skilled in the art be motivated to replace a shielding technique already shown to work in the Wu connector and instead use a different, unproven shielding technique?", please note that the fact that there is a known method/structure would not precluded one of ordinary skill in the art from trying to improve upon such method.

In response to Appellant's argument (on page 9, first full paragraph) that "nowhere in lines 59-61 or anywhere else in Yamamoto is the metal plate 21 characterized as a 'metal shielding layer'; instead, Yamamoto in lines 59-61 states that the metal plate 21 serves as a support, a reinforcement and a heat sinking element, as well as a ground electrode", please note that the fact that Yamamoto has used a label, that is different from that in the present application, to identify element 21 does not negate the structural characteristics of that element. In this case, Yamamoto shows a metal layer (21) that provides shielding, as well as rigidity and heat dissipation.

In response to Appellant's argument that "[t]here is no reason why one skilled in the art would use a board, one of whose primary features is heat sinking, in an application in which heat generating components are not employed", please note that

the fact that a feature/element has "a primary feature" would not preclude one skilled in the art from appreciating the other characteristic of that element.

In response to Appellant's argument (on page 10, first paragraph) that "what the Examiner characterizes as a separator is actually the middle part of a three-piece Faraday shield", please note that the fact that element 74 is part of a Faraday shield does not negate that fact that is a metal separator that separates set of toroids (see Fig. 3).

In response to Appellant's argument that "no part of the shield, let alone the part 74, separates the sets of toroids from one another but, instead, the entire shield surrounds all of the sets" please note that plate 74 is placed behind toroids 64-67, thus separating toroids (64-67) from toroids (70-73).

In response to Appellant's argument that "the sets of toroids are not even electromagnetically shielded from one another", please note that the placement of a metal plate between the set of toroids reduces electromagnetic interference from one another and from external interference.

In response to Appellant's argument that "nowhere in Kunz is the middle part of the three-piece Faraday shield characterized as a separator", please note that the fact that a different label is used does not deny the structural characteristics/arrangement of the metal separator (74) of Kunz.

In response to Appellant's argument that "the Examiner is attempting to do is not combine the shield of Kunz with Wu, but instead to disassemble the shield and allege that there is a suggestion to combine one of the disassembled parts thereof with Wu for a

Art Unit: 2800

purpose not taught by the reference", In response to Appellant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a metal separator, as taught by Kunz, to reduce electromagnetic interference.

**6. Claim 16:**

In response to Appellant's argument (on page 11, second paragraph) that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the Appellant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

Art Unit: 2800

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Felix O. Figueroa/

Primary Examiner, Art Unit 2833

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